CAIT
Center for Advanced Infrastructure & Transportation
Rutgers, The State University of New Jersey

# QUARTERLY PROGRESS REPORT

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|---|---|
| Project Title: | The Development of a Performance Specification for Granular Base and Subbase Material |
| RFP NUMBER: | NJDOT RESEARCH PROJECT MANAGER:<br>Mr. Anthony Chmiel |
| TASK ORDER NUMBER/Study Number:<br>Task Order No. 83 / 4-23914 | PRINCIPAL INVESTIGATOR:<br>Dr. Ali Maher |
| Study Start Date: 03/01/2000<br>Study End Date: 08/31/2003 | Period Covered: 1st Quarter 2003 |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|---|---|---|---|
| Literature Search | 5% | 25% | 100% | 5% |
| 1. Material Collection | 5% | 40% | 100% | 5% |
| 2. Laboratory Testing | 60% | 10% | 75% | 45% |
| 3. Calibration | 10% | 15% | 55% | 5.5% |
| 4. Reporting | 20% | 10% | 20% | 4% |
| Final Report | | | | |
| TOTAL | 100% | | | 64.5% |

1. Progress this quarter by task:
   - A. All triaxial testing for both the I-3 and DGABC have been completed. The friction angles, the typical index for shear strength of Cohesionless soils, was shown to varying depending on both the gradation and the compacted dry density. The I-3 was found to have a much lower friction angle than the DGABC. This is most likely due to the lower levels of compaction. The NJDOT requires the modified compaction for the DGABC and only the standard compaction for the I-3. Statistical regression analysis is currently underway to determine if the friction angle of the tow materials can be estimated based on the compaction and gradation properties.
   - B. The resilient modulus testing is starting with the new resilient modulus system. All of the measurements made during the test are now internally conducted within the chamber. By testing in this manner, any equipment deformation or movement will not affect the measurement values. This also negates any type of friction error caused by the loading piston. This type of set-up is not necessary for larger strain, static loading tests, such as the triaxial test. The permanent deformation testing will be conducted with the same set-up.

2. Proposed activities for next quarter by task:
   - A. Resilient Modulus testing should be finished and the permanent deformation testing will start. Compaction and permeability testing will begin on the recycled concrete and recycled asphalt materials.

3. List of deliverables provided in this quarter by task (product date)
   N.A.

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4. Progress on Implementation and Training Activities

N.A.

5. Problems/Proposed Solutions

N.A.

6. Budget Summary*

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|---|---|---|
| Total Project Budget(# of years) | 2 Years | $286,041.00 |
| Total Project Expenditure to date | | $273,464 |
| % of Total Project Budget Expended | | 96% |
| | | |
| Task Order Number/Study Number: | | 83 / 4-23914 |
| Current Task Order Budget (# of years) | Year 1 and 2 | $286,041.00 |
| Actual Expenditure to date against current task order | | $273,464 |
| % of current task order budget expended | | 96% |

* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.